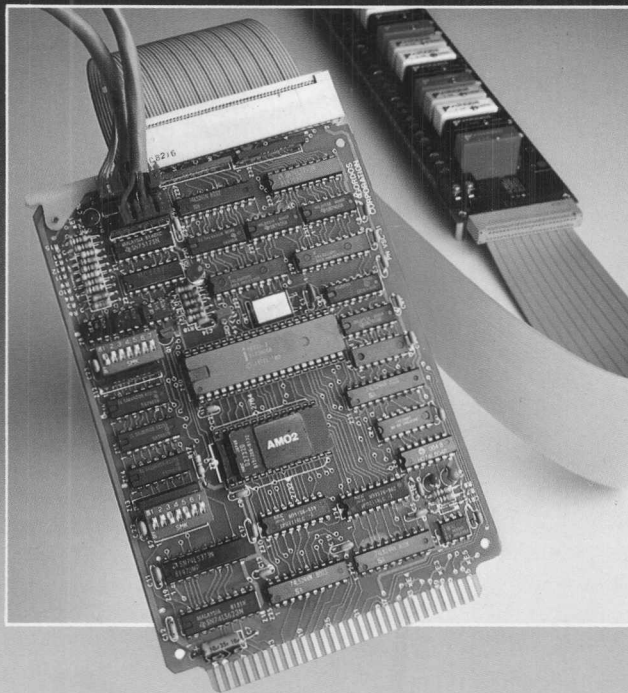


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TEL. 802-5820



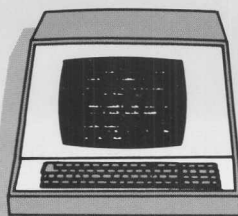
Gordos VSCTM Versatile Serial Control Systems



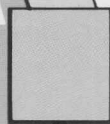
**GORDOS
CORPORATION** 

Gordos VSC™ Versatile Serial Control Systems

Your
Host
Controller



VSC-TR Translator
Repeater Card



Economical, real-world power I/O control and data acquisition capability for your existing computer system.

The Gordos VSC™ Versatile Serial Controller is a single-board-computer card for remote industrial control and sensing. Used as an interface between your existing computer and Gordos industry-standard input/output modules, the VSC card allows you to control and monitor key functions in all phases of your operation.

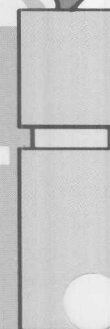
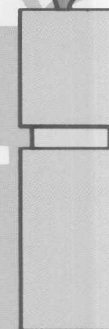
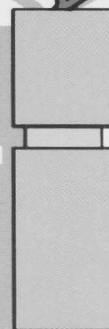
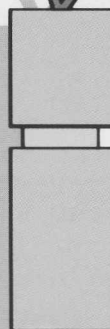
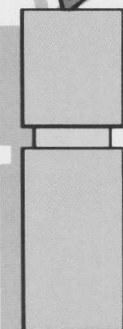
This is accomplished by routing a single, low-cost cable (shielded, dual twisted-pair wires) throughout your facility, in serial (multi-drop party-line) fashion. With this inexpensive communications loop complete, VSC cards can be tapped into the cable at remote locations. Each card then functions locally as a standalone microprocessor controller, and can also communicate with and receive instructions from your computer (host controller) as needed. Communications protocol on critical and non-critical messages is determined by you the user.

The Gordos VSC-31™ can also be used as an 8031 processor card on the STD bus with full serial communications capability.

On the following pages, consider the advantages and automation possibilities of the VSC System for your operation.

VSC-31 Versatile Serial
Controller Card

Power I/O
Module Board



Compare. You'll like VSC™ economy and versatility.

Compare the serial vs. parallel approach for your industrial control application:

Serial vs. Parallel

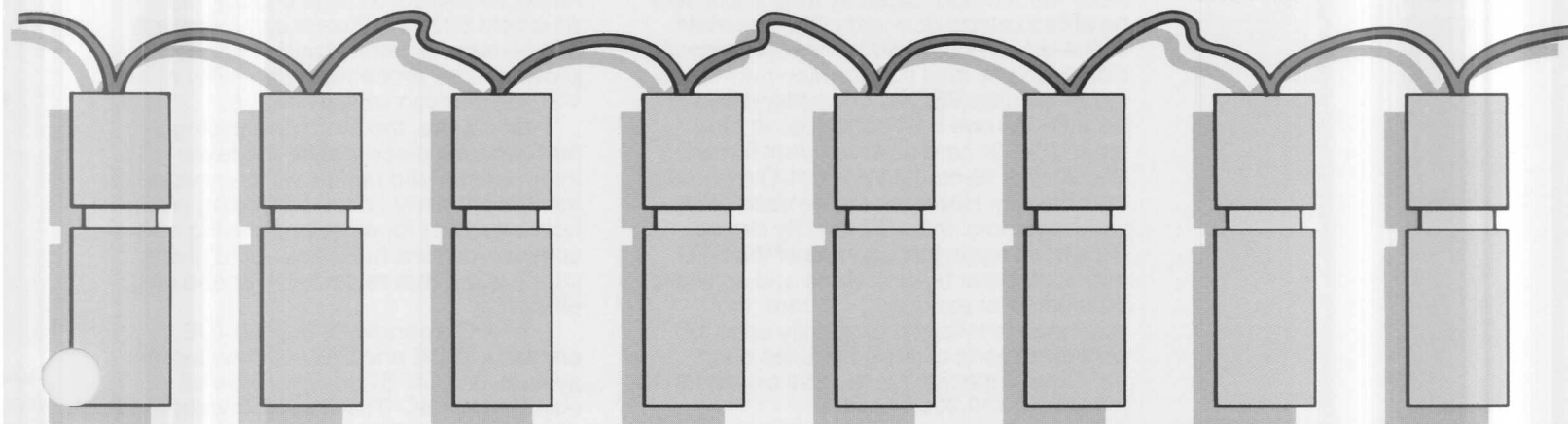
	Parallel	Serial
Data Transmission	High speed, high quantity data transmission capability.	Relatively slower data speed. (However, high quantities of data are not commonly required for industrial control.)
Maximum Remote Distance	Economical and technically suitable for relatively local use only.	Suitable for local or remote use at distances up to a mile from the host controller.
Cable	1. Flat ribbon cable or 2. Separate, multiple cables in conduit.	Dual, twisted-pair shielded cables.
Cable Costs	High	Low
Installation Labor & Costs	High	Low
Installation Limitations	Any remote use tends to be limited to new construction, due to electrical shielding requirements and difficulty of routing power wiring in conduit.	Suitable for new or existing facilities, due to easy routing of single, lightweight, flexible cable.

Consider our list of standard design features:

VSC System Features

RS-422 optically isolated send/receive capability
8031 on-board microprocessor
8-bit multiply/divide
128 x 8 read/write memory
Full-duplex UART
Two 16-bit timers
On-board memory
8K x 8 UV-EPROM. 4K x 8 supplied with firmware.
1K RAM
Industry-standard STD bus interface provided
Capability as a slave-intelligent peripheral controller, through direct memory access to the host controller, via the STD bus
I/O expansion on the STD bus to over 130,000 I/O lines

Memory expansion on the STD bus to 32K x 8 or 64K x 8
Off-the-shelf STD-compatible function cards available from multiple manufacturers
Binary protocol for message speed
Variable length message capability for transmission efficiency, speed
Dual, twisted-pair cable for message/reply speed
Translator/repeater card available to give RS-422 capability to your existing RS-232C controller



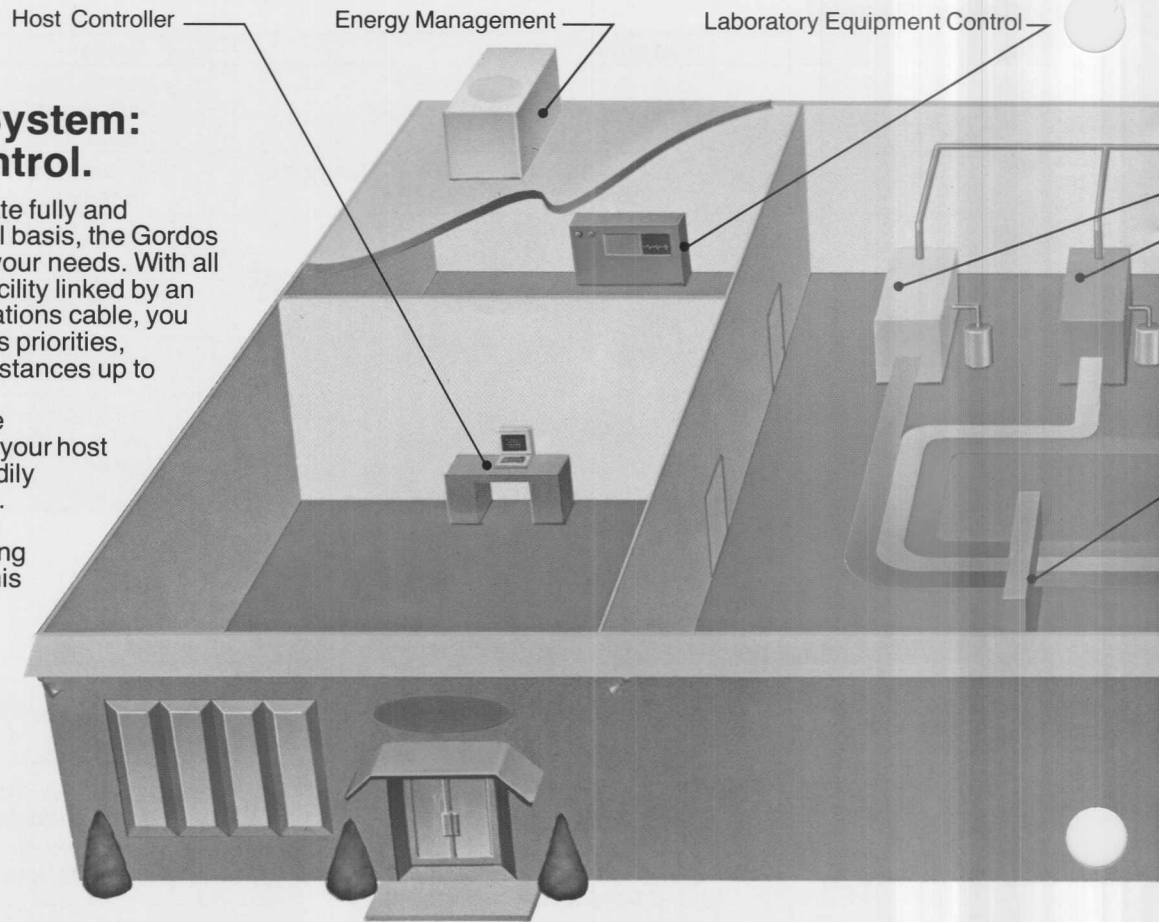
An Input/Output Control

The Gordos VSC™ System: For total facility control.

Whether you want to automate fully and immediately, or on a more gradual basis, the Gordos VSC System can accommodate your needs. With all areas and departments of your facility linked by an inexpensive, two-way communications cable, you can automate various functions as priorities, time, and resources permit—at distances up to 4000 feet.

Since master instructions are programmed by you and stored in your host controller, the VSC System is readily adapted to accomplish new tasks. Unrelated functions as diverse as building security and manufacturing control can be integrated within this single, all-purpose automation system.

As the VSC name denotes, the V stands for *versatile*.



4,000

Power I/O Expansion

The Gordos VSC System provides more input/output capacity than you'll ever be able to utilize at one facility. The state-of-the-art, on-board 8031 microprocessor developed by Intel Corporation permits up to 127 Gordos VSC-31 controller cards to be linked to one host controller. In turn, each VSC-31 card uses resident firmware to control a 16-module power I/O mounting rack directly. However, unlike most other serial systems, the I/O capacity can be expanded again through use of the STD microcomputer bus interface and software provided. For each VSC-31 card, the software permits you to specify up to 127 additional ports of 8 I/O modules each.

Total capacity can thus be expanded to more than 130,000 I/O lines.

Command Expansion

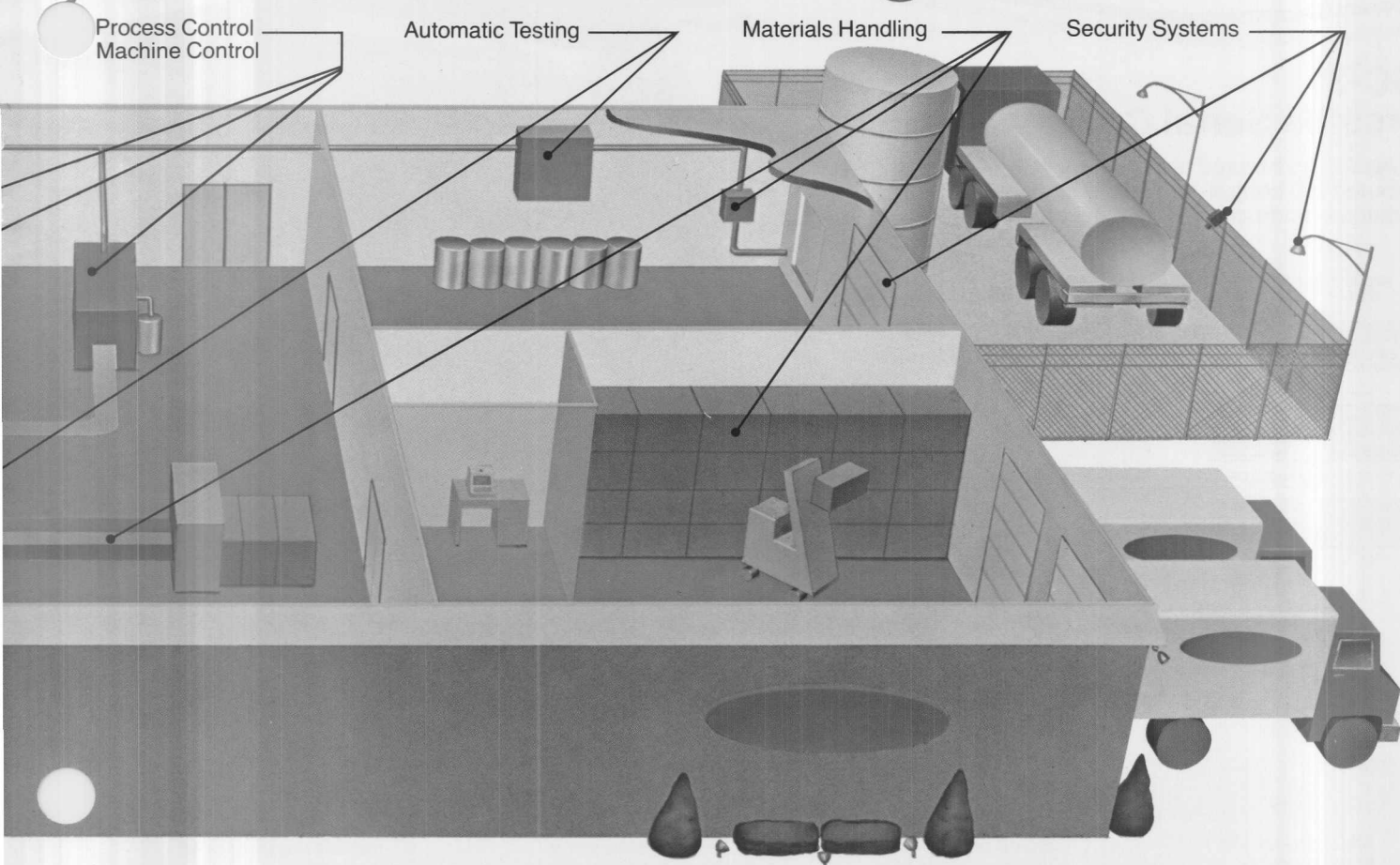
As one of the most powerful microprocessors available today, the on-board 8031's software command set can be reprogrammed and expanded to provide more processing capability at any VSC-31 location where needed.

Of course, the more processing that can take place locally, the fewer interruptions and replies will be needed on the system party-line, thus freeing your host controller for other processing and communications functions—and giving your system that much more speed and efficiency.

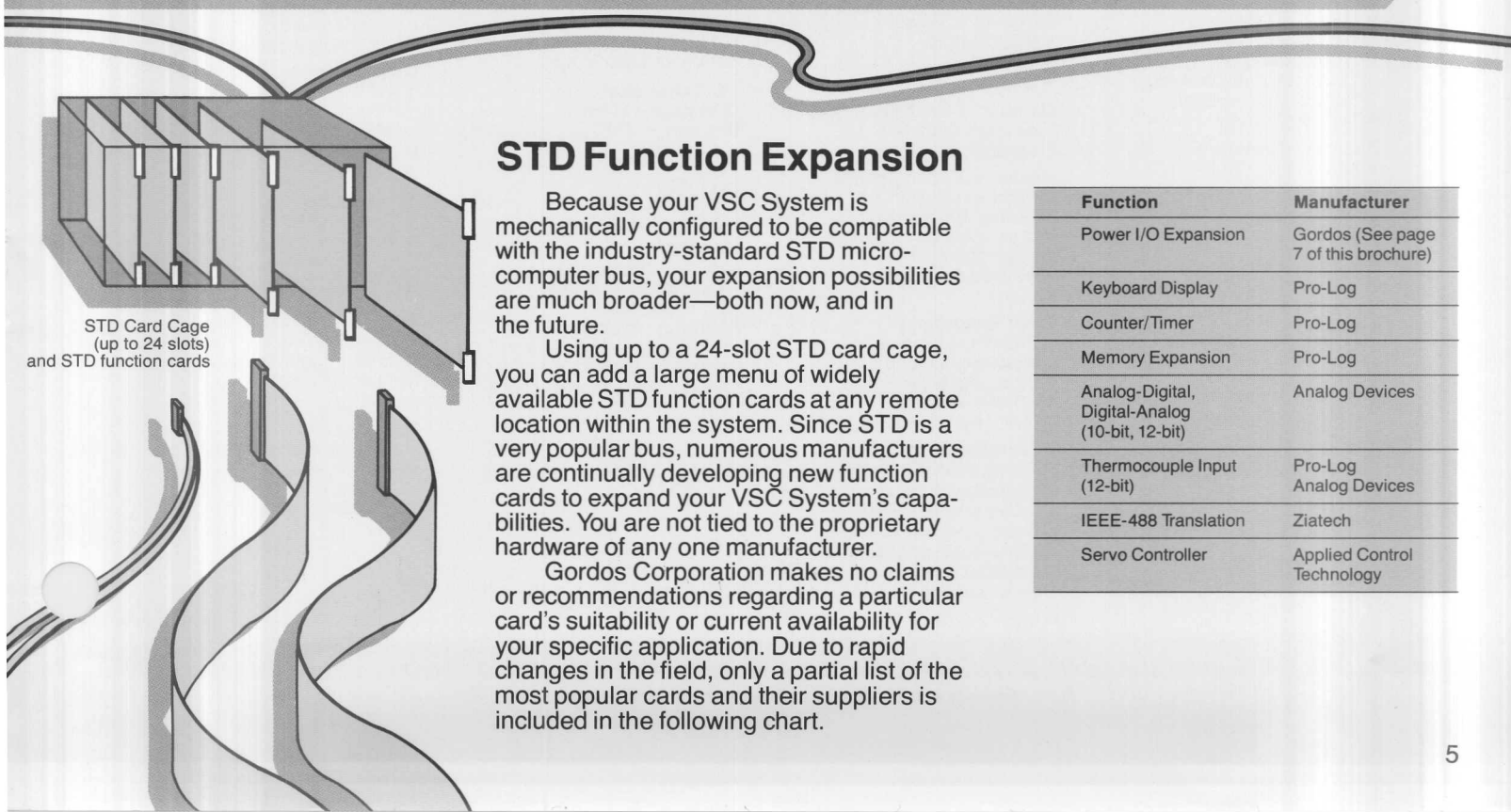
Intel Corporation's MCI-51-ICE emulator, iPDS and EMV-51 development system, or SDK-51 design kit are all suitable for VSC-31 software development.

If you require a production run of VSC-31 cards with an expanded command set, Gordos will be glad to assist you in software development.

System You Won't Outgrow.



FEET



STD Function Expansion

Because your VSC System is mechanically configured to be compatible with the industry-standard STD micro-computer bus, your expansion possibilities are much broader—both now, and in the future.

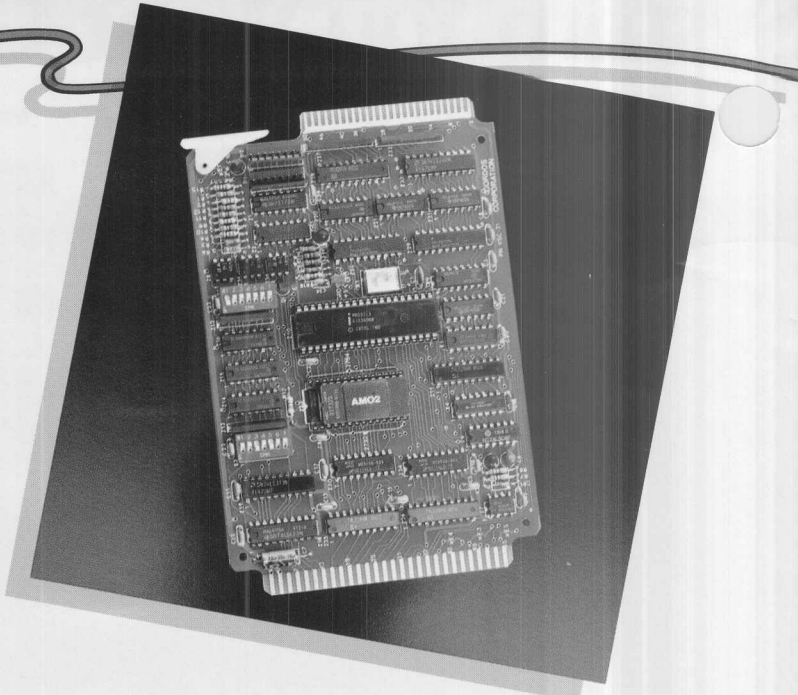
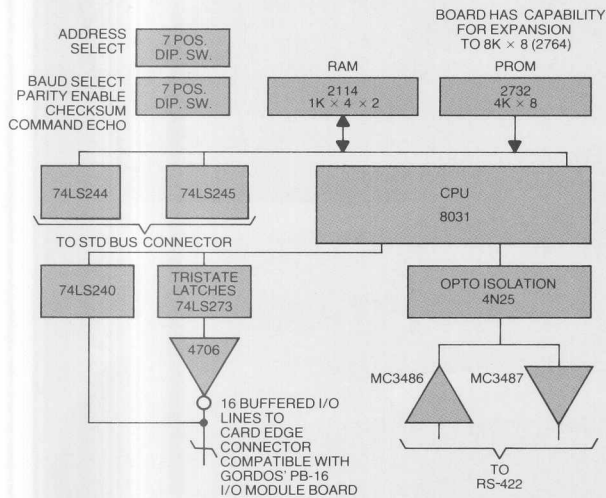
Using up to a 24-slot STD card cage, you can add a large menu of widely available STD function cards at any remote location within the system. Since STD is a very popular bus, numerous manufacturers are continually developing new function cards to expand your VSC System's capabilities. You are not tied to the proprietary hardware of any one manufacturer.

Gordos Corporation makes no claims or recommendations regarding a particular card's suitability or current availability for your specific application. Due to rapid changes in the field, only a partial list of the most popular cards and their suppliers is included in the following chart.

Function	Manufacturer
Power I/O Expansion	Gordos (See page 7 of this brochure)
Keyboard Display	Pro-Log
Counter/Timer	Pro-Log
Memory Expansion	Pro-Log
Analog-Digital, Digital-Analog (10-bit, 12-bit)	Analog Devices
Thermocouple Input (12-bit)	Pro-Log Analog Devices
IEEE-488 Translation	Ziatech
Servo Controller	Applied Control Technology

VSC-31™ Versatile Serial Controller Card

An 8031/51-based system (RS-422 compatible) for distributed I/O control, which can be used in the standalone mode or as an STD bus controller.



Microprocessor

- 8031 processor, developed by Intel Corporation
- Bit manipulation instructions
 - 8-bit multiply/divide
 - 128 x 8 read/write memory
 - Full-duplex UART (Universal Asynchronous Receiver/Transmitter)
 - Two 16-bit timers

Resident Firmware

- 4K x 8 UV-EPROM

On-Board Memory

- 8K x 8 UV-EPROM
- 1K RAM

Memory Expansion

- 32K x 8 if any STD expansion cards utilize 8-bit I/O address decoding
- 64 K x 8 if all cards decode a full 16-bit address

Standard Command Set

- Includes instructions in the following categories (provided in UV-EPROM).
- Initialization
 - Configuration
 - Control & Status
 - Input/Output
 - Latch
 - Event Counters

Command Set Expansion

(See page 4 of this brochure)

Gordos VSC-31™ permits several levels of error checking and handling, and customized message configuration for increased message security.

Error Responses

- Undefined Command
- Message Too Long
- Character Error
- Checksum Error
- Reset State

Customized

Message Configuration

- (Depending on hardware/application requirements)
- Parity select (odd/even)
 - Checksum (disable/enable)
 - Command echo mode (disable/enable)

Transmission Rates

Selectable—110, 150, 300, 600, 1200, 2400, 4800, or 9600 baud

Address Recognition

Up to 127 station (card) addresses

Message Protocol

Binary, variable length

I/O Expansion

(See page 4 of this brochure)

STD Expansion

(See page 5 of this brochure)

STD Multi-Processor Capability

VSC-31 card may be used as a slave-intelligent peripheral controller, sharing the STD bus with the host controller through DMA (direct memory access).

Electrical Requirements

Power Supply:

- Non-Isolated: +5 VDC \pm 5% at 1500mA
- Isolated: +5 VDC \pm 5% at 200mA
- On-card output to module board: +4.7 VDC \pm 5% at 500mA

Output Drivers:

- Each of the 16 I/O lines is capable of sinking 20mA current.

Power Dissipation:

- 6 Watts

Temperature

- Operating: 0° to 50°C
- Storage: -65° to 150°C

Humidity

10% to 90% noncondensing

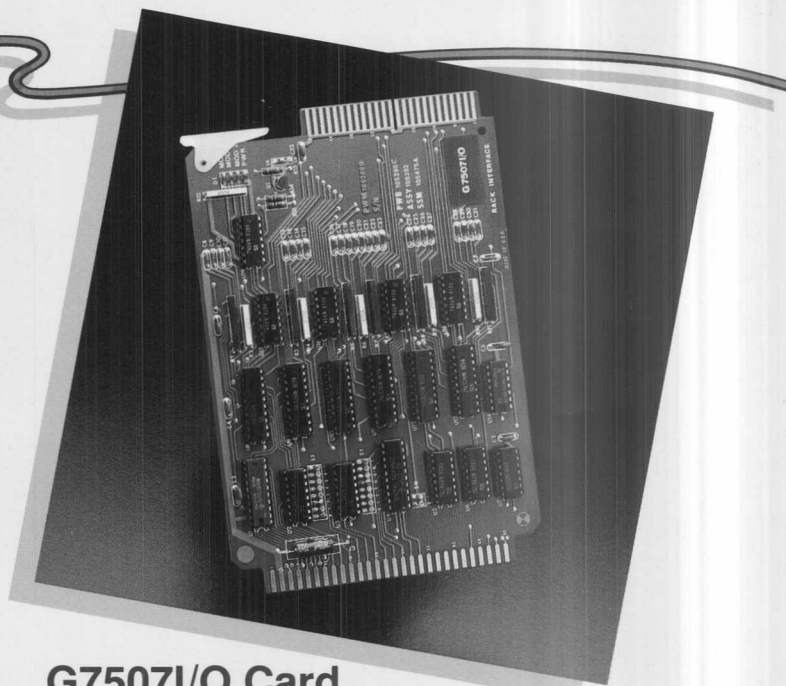
Space Requirements

Requires 2 slots in STD card cage due to component height.

I/O Connector

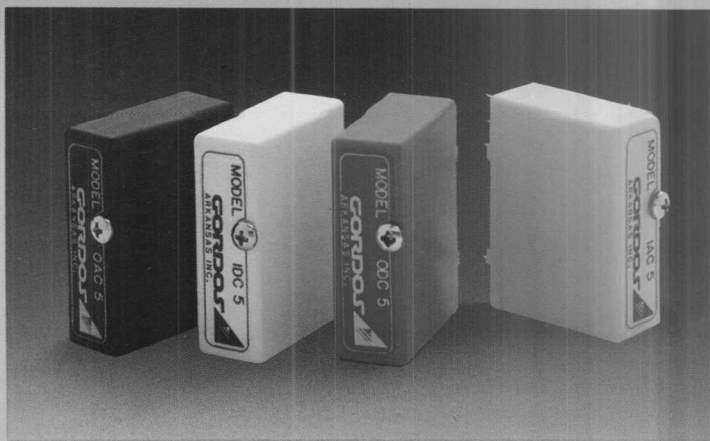
Compatibility

- STD bus connection
- Industry-standard connection to I/O module boards



Gordos Input/Output Modules

A broad selection of I/O modules for real-world power control and sensing. Industry-standard packaging. Thick film hybrid construction. Options available include MOS-compatible buffering, VDE specifications, 3.5 Arms output rating, 600 PRV (280 VAC modules), random switching, and a normally closed configuration.

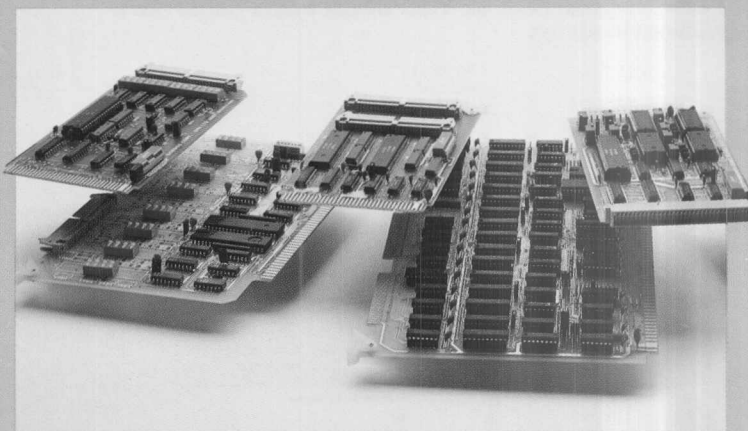


Gordos I/O Module Boards

Industry-standard packaging. Boards available to accept 4, 8, 16, or 24 industry-standard I/O modules. 8, 16, and 24 position boards are connector-compatible with Gordos serial and parallel interface cards. Barrier strip with screw terminals for load connections.

Gordos Bus-Compatible Parallel I/O Systems

A line of parallel interface cards designed for high-speed *localized* control and monitoring. Cards available for the RM-65,[™] RM-65[™]-Euro, Multibus,[™] EXORciser II,[®] or STD microcomputer buses. Required interface cables and connectors also available.



[™]RM-65 is a trademark of Rockwell International.

[™]Multibus is a trademark of Intel Corporation.

[®]EXORciser II is a registered trademark of Motorola, Inc.

Call your Gordos Distributor for further information on I/O modules, Module Boards and Interface Boards.

GORDOS CORPORATION

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Bloomfield, New Jersey 07003 USA
201 743-6800 • TWX 710 994-4787

A
GORDOS INTERNATIONAL
Company

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250 Glenwood Avenue
Bloomfield, New Jersey 07003 USA
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- Reed Relays
- Mercury Wetted Relays
- Mercury Wetted Switches
- Mercury Tilt Switches
- Dry Reed Switches
- Interface Boards
- Custom Products

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1000 North Second Street
Rogers, Arkansas 72756 USA
501 636-5000 • TWX 910 720-7998

- Input/Output Devices
- Solid State Relays
- Thick Film Hybrid Products

Standard Grigsby, Inc.
920 Rathbone Avenue/PO Box 1528
Aurora, Illinois 60507 USA
312 844-4300 • TWX 910 232-3138

- Rotary Lever, and Slide Switches
- P/REL[™]—Programmable Rotary Encoded Logic Devices
- Custom Designed Switches

In Europe contact:
W. Günther GmbH
Virnsberger Strasse 51
D 8500 Nürnberg 82, West Germany
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- Reed Switches
- Reed Relays
- Mercury Wetted Switches
- Mercury Tilt Switches
- Gordos Arkansas Products
- Gordos Corporation Products
- Standard Grigsby Products